

The diagram illustrates a power supply system divided into several functional blocks, each enclosed in a dashed-line box:

- Block 100 (Left):** Contains a bridge rectifier 111 with diodes and a resistor R2. A thermistor TA1 is connected in parallel with the bridge output. A resistor R1 is connected between the thermistor and the AC input line.
- Block 101 (Bottom Left):** An AC power input source represented by a circle with a sine wave.
- Block 102 (Bottom):** A fuse F1 in series with the AC input.
- Block 103 (Right):** A filter section consisting of a diode D1 in series with a resistor R4, followed by a capacitor C1 connected to ground.
- Block 104 (Center):** A complex control and regulation section. It includes a diode D2 in series with a capacitor C2. This is followed by a resistor R3 connected to the non-inverting input of an operational amplifier P2. The inverting input of P2 is connected to a feedback network consisting of a resistor R6 in parallel with a capacitor C3, which is then in series with a resistor R7 to ground. The output of P2 is connected to a resistor R5, which is in series with the non-inverting input of another operational amplifier P1. The output of P1 is connected to a resistor R9 to ground and a diode D3 to the AC input line. A resistor R8 is connected between the output of P1 and the feedback network of P2.
- Block 105 (Top):** A bridge rectifier BD with four diodes. Its output is connected to a resistor R10, which is in series with a capacitor C4 connected to ground.
- Block 106 (Top Right):** A transformer with a primary winding L4 and a secondary winding L1. A switch SW-1 is connected to the primary. The secondary is connected to a resistor R12, which is in series with a diode D6. The output of D6 is connected to a resistor R14, which is in series with a diode D8. A capacitor C8 is connected in parallel with the output of D8. A resistor R11 is connected between the secondary and the input of a second operational amplifier P2.
- Block 107 (Top Right):** A second operational amplifier P2, which is part of a feedback loop. Its non-inverting input is connected to a resistor R13, which is in series with a diode D5. The inverting input is connected to a resistor R16, which is in series with a diode D9. A capacitor C7 is connected in parallel with the output of D9. The output of P2 is connected to a resistor R15, which is in series with a diode D7. A resistor R17 is connected between the output of P2 and the feedback network of P1.
- Block 108 (Top Right):** A transformer with a primary winding L2 and a secondary winding L3. The primary is connected to a capacitor C6. The secondary is connected to a resistor R18, which is in series with a diode D10. A capacitor C9 is connected in parallel with the output of D10. A resistor R19 is connected between the secondary and the input of a third operational amplifier P3.
- Block 109 (Top Right):** A third operational amplifier P3, which is part of a feedback loop. Its non-inverting input is connected to a resistor R20, which is in series with a diode D11. The inverting input is connected to a resistor R21, which is in series with a diode D12. A capacitor C10 is connected in parallel with the output of D12. The output of P3 is connected to a resistor R22, which is in series with a diode D13. A resistor R23 is connected between the output of P3 and the feedback network of P1.
- Block 110 (Top Right):** A transformer with a primary winding L5 and a secondary winding L6. The primary is connected to a capacitor C11. The secondary is connected to a resistor R24, which is in series with a diode D14. A capacitor C12 is connected in parallel with the output of D14. A resistor R25 is connected between the secondary and the input of a fourth operational amplifier P4.
- Block 111 (Top Right):** A fourth operational amplifier P4, which is part of a feedback loop. Its non-inverting input is connected to a resistor R26, which is in series with a diode D15. The inverting input is connected to a resistor R27, which is in series with a diode D16. A capacitor C13 is connected in parallel with the output of D16. The output of P4 is connected to a resistor R28, which is in series with a diode D17. A resistor R29 is connected between the output of P4 and the feedback network of P1.
- Block 112 (Bottom):** A bridge rectifier 112 with four diodes. Its output is connected to a resistor R30, which is in series with a diode D18. A capacitor C14 is connected in parallel with the output of D18. A resistor R31 is connected between the secondary and the input of a fifth operational amplifier P5.
- Block 113 (Bottom):** A fifth operational amplifier P5, which is part of a feedback loop. Its non-inverting input is connected to a resistor R32, which is in series with a diode D19. The inverting input is connected to a resistor R33, which is in series with a diode D20. A capacitor C15 is connected in parallel with the output of D20. The output of P5 is connected to a resistor R34, which is in series with a diode D21. A resistor R35 is connected between the output of P5 and the feedback network of P1.
- Block 114 (Bottom):** A transformer with a primary winding L7 and a secondary winding L8. The primary is connected to a capacitor C16. The secondary is connected to a resistor R36, which is in series with a diode D22. A capacitor C17 is connected in parallel with the output of D22. A resistor R37 is connected between the secondary and the input of a sixth operational amplifier P6.
- Block 115 (Bottom):** A sixth operational amplifier P6, which is part of a feedback loop. Its non-inverting input is connected to a resistor R38, which is in series with a diode D23. The inverting input is connected to a resistor R39, which is in series with a diode D24. A capacitor C18 is connected in parallel with the output of D24. The output of P6 is connected to a resistor R40, which is in series with a diode D25. A resistor R41 is connected between the output of P6 and the feedback network of P1.
- Block 116 (Bottom):** A transformer with a primary winding L9 and a secondary winding L10. The primary is connected to a capacitor C19. The secondary is connected to a resistor R42, which is in series with a diode D26. A capacitor C20 is connected in parallel with the output of D26. A resistor R43 is connected between the secondary and the input of a seventh operational amplifier P7.
- Block 117 (Bottom):** A seventh operational amplifier P7, which is part of a feedback loop. Its non-inverting input is connected to a resistor R44, which is in series with a diode D27. The inverting input is connected to a resistor R45, which is in series with a diode D28. A capacitor C21 is connected in parallel with the output of D28. The output of P7 is connected to a resistor R46, which is in series with a diode D29. A resistor R47 is connected between the output of P7 and the feedback network of P1.
- Block 118 (Bottom):** A transformer with a primary winding L11 and a secondary winding L12. The primary is connected to a capacitor C22. The secondary is connected to a resistor R48, which is in series with a diode D30. A capacitor C23 is connected in parallel with the output of D30. A resistor R49 is connected between the secondary and the input of an eighth operational amplifier P8.
- Block 119 (Bottom):** An eighth operational amplifier P8, which is part of a feedback loop. Its non-inverting input is connected to a resistor R50, which is in series with a diode D31. The inverting input is connected to a resistor R51, which is in series with a diode D32. A capacitor C24 is connected in parallel with the output of D32. The output of P8 is connected to a resistor R52, which is in series with a diode D33. A resistor R53 is connected between the output of P8 and the feedback network of P1.
- Block 120 (Bottom):** A transformer with a primary winding L13 and a secondary winding L14. The primary is connected to a capacitor C25. The secondary is connected to a resistor R54, which is in series with a diode D34. A capacitor C26 is connected in parallel with the output of D34. A resistor R55 is connected between the secondary and the input of a ninth operational amplifier P9.
- Block 121 (Bottom):** A ninth operational amplifier P9, which is part of a feedback loop. Its non-inverting input is connected to a resistor R56, which is in series with a diode D35. The inverting input is connected to a resistor R57, which is in series with a diode D36. A capacitor C27 is connected in parallel with the output of D36. The output of P9 is connected to a resistor R58, which is in series with a diode D37. A resistor R59 is connected between the output of P9 and the feedback network of P1.
- Block 122 (Bottom):** A transformer with a primary winding L15 and a secondary winding L16. The primary is connected to a capacitor C28. The secondary is connected to a resistor R60, which is in series with a diode D38. A capacitor C29 is connected in parallel with the output of D38. A resistor R61 is connected between the secondary and the input of a tenth operational amplifier P10.
- Block 123 (Bottom):** A tenth operational amplifier P10, which is part of a feedback loop. Its non-inverting input is connected to a resistor R62, which is in series with a diode D39. The inverting input is connected to a resistor R63, which is in series with a diode D40. A capacitor C30 is connected in parallel with the output of D40. The output of P10 is connected to a resistor R64, which is in series with a diode D41. A resistor R65 is connected between the output of P10 and the feedback network of P1.
- Block 124 (Bottom):** A transformer with a primary winding L17 and a secondary winding L18. The primary is connected to a capacitor C31. The secondary is connected to a resistor R66, which is in series with a diode D42. A capacitor C32 is connected in parallel with the output of D42. A resistor R67 is connected between the secondary and the input of an eleventh operational amplifier P11.
- Block 125 (Bottom):** An eleventh operational amplifier P11, which is part of a feedback loop. Its non-inverting input is connected to a resistor R68, which is in series with a diode D43. The inverting input is connected to a resistor R69, which is in series with a diode D44. A capacitor C33 is connected in parallel with the output of D44. The output of P11 is connected to a resistor R70, which is in series with a diode D45. A resistor R71 is connected between the output of P11 and the feedback network of P1.
- Block 126 (Bottom):** A transformer with a primary winding L19 and a secondary winding L20. The primary is connected to a capacitor C34. The secondary is connected to a resistor R72, which is in series with a diode D46. A capacitor C35 is connected in parallel with the output of D46. A resistor R73 is connected between the secondary and the input of a twelfth operational amplifier P12.
- Block 127 (Bottom):** A twelfth operational amplifier P12, which is part of a feedback loop. Its non-inverting input is connected to a resistor R74, which is in series with a diode D47. The inverting input is connected to a resistor R75, which is in series with a diode D48. A capacitor C36 is connected in parallel with the output of D48. The output of P12 is connected to a resistor R76, which is in series with a diode D49. A resistor R77 is connected between the output of P12 and the feedback network of P1.
- Block 128 (Bottom):** A transformer with a primary winding L21 and a secondary winding L22. The primary is connected to a capacitor C37. The secondary is connected to a resistor R78, which is in series with a diode D50. A capacitor C38 is connected in parallel with the output of D50. A resistor R79 is connected between the secondary and the input of a thirteenth operational amplifier P13.
- Block 129 (Bottom):** A thirteenth operational amplifier P13, which is part of a feedback loop. Its non-inverting input is connected to a resistor R80, which is in series with a diode D51. The inverting input is connected to a resistor R81, which is in series with a diode D52. A capacitor C39 is connected in parallel with the output of D52. The output of P13 is connected to a resistor R82, which is in series with a diode D53. A resistor R83 is connected between the output of P13 and the feedback network of P1.
- Block 130 (Bottom):** A transformer with a primary winding L23 and a secondary winding L24. The primary is connected to a capacitor C40. The secondary is connected to a resistor R84, which is in series with a diode D54. A capacitor C41 is connected in parallel with the output of D54. A resistor R85 is connected between the secondary and the input of a fourteenth operational amplifier P14.
- Block 131 (Bottom):** A fourteenth operational amplifier P14, which is part of a feedback loop. Its non-inverting input is connected to a resistor R86, which is in series with a diode D55. The inverting input is connected to a resistor R87, which is in series with a diode D56. A capacitor C42 is connected in parallel with the output of D56. The output of P14 is connected to a resistor R88, which is in series with a diode D57. A resistor R89 is connected between the output of P14 and the feedback network of P1.
- Block 132 (Bottom):** A transformer with a primary winding L25 and a secondary winding L26. The primary is connected to a capacitor C43. The secondary is connected to a resistor R90, which is in series with a diode D58. A capacitor C44 is connected in parallel with the output of D58. A resistor R91 is connected between the secondary and the input of a fifteenth operational amplifier P15.
- Block 133 (Bottom):** A fifteenth operational amplifier P15, which is part of a feedback loop. Its non-inverting input is connected to a resistor R92, which is in series with a diode D59. The inverting input is connected to a resistor R93, which is in series with a diode D60. A capacitor C45 is connected in parallel with the output of D60. The output of P15 is connected to a resistor R94, which is in series with a diode D61. A resistor R95 is connected between the output of P15 and the feedback network of P1.
- Block 134 (Bottom):** A transformer with a primary winding L27 and a secondary winding L28. The primary is connected to a capacitor C46.

Fig. 2 (Prior Art)

